

FE 6140(US)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re patent application of: **Yuri Gulevich et al.**

Serial No.: **10/577,694**

Filed: **April 28, 2006**

For: **COMPONENTS AND CATALYSTS FOR  
THE POLYMERIZATION OF OLEFINS**

Examiner: **Ling Siu Choi**

Group Art Unit: **1713**

Mail Stop Amendment  
Commissioner for Patents  
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October 11, 2007

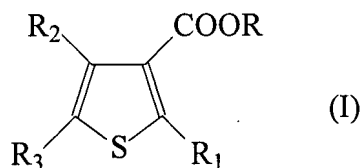
**REQUEST FOR RECONSIDERATION**

This is in response to the Office Action dated July 25, 2007 in the above-identified application. This response is being timely filed on October 10, 2007. Included with this response is a Supplemental Information Disclosure Statement.

Summarized below is a current listing of the claims:

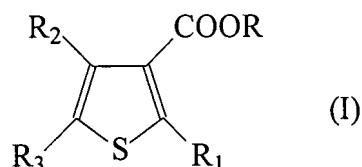
## AMENDMENTS TO THE CLAIMS

1. (previously presented) A solid catalyst component for the polymerization of olefins comprising Mg, Ti, halogen and an electron donor selected from thiophene derivatives of formula (I):



- wherein R is a branched alkyl group,  $R_1$ ,  $R_2$  and  $R_3$ , same or different, are hydrogen, halogen,  $R^4$ ,  $OR^4$ ,  $COOR^4$ ,  $SR^4$ ,  $NR^4_2$  or  $PR^4_2$ , wherein  $R^4$  is a linear or branched  $C_1$ - $C_{20}$  alkyl,  $C_2$ - $C_{20}$  alkenyl,  $C_3$ - $C_{20}$  cycloalkyl,  $C_6$ - $C_{20}$  aryl,  $C_7$ - $C_{20}$  alkylaryl or  $C_7$ - $C_{20}$  arylalkyl group, optionally containing at least one heteroatom, and at least two of said  $R_1$ - $R_3$  groups can also be joined to form a cycle, with the proviso that at least one of  $R_1$  and  $R_2$  is  $COO^-$  i-octyl and R is i-octyl, at least one of  $R_1$  and  $R_3$  are different from hydrogen.
2. (previously presented) The catalyst component according to claim 1 in which in the thiophene derivatives of formula (I), R is a primary branched alkyl having from 4 to 15 carbon atoms.
  3. (previously presented) The catalyst component according to claim 1 in which in the thiophene derivatives of formula (I),  $R_2$  is a  $COOR$  group.
  4. (previously presented) The catalyst component according to claim 3 in which at least one of  $R_1$  and  $R_3$  is a  $C_1$ - $C_{20}$  alkyl group.
  5. (previously presented) The catalyst component according to claim 1 in which in the thiophene derivatives of formula (I),  $R_1$  is a  $COOR$  group.
  6. (previously presented) The catalyst component according to claim 5 in which one of  $R_2$  and  $R_3$  of formula (I) are different from hydrogen.
  7. (original) The catalyst component of claim 1 comprising a titanium compound having at least a Ti-halogen bond and the thiophene derivatives of formula (I) supported on a Mg halide in active form.
  8. (previously presented) A catalyst for the polymerization of olefins comprising the product of the reaction between:

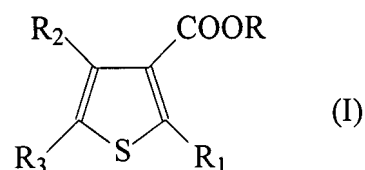
- a solid catalyst component comprising Mg, Ti, halogen and an electron donor selected from thiophene derivatives of formula (I):



wherein R is a branched alkyl group, R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub>, same or different, are hydrogen, halogen, R<sup>4</sup>, OR<sup>4</sup>, COOR<sup>4</sup>, SR<sup>4</sup>, NR<sup>4</sup><sub>2</sub> or PR<sup>4</sup><sub>2</sub>, wherein R<sup>4</sup> is a linear or branched C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>2</sub>-C<sub>20</sub> alkenyl, C<sub>3</sub>-C<sub>20</sub> cycloalkyl, C<sub>6</sub>-C<sub>20</sub> aryl, C<sub>7</sub>-C<sub>20</sub> alkylaryl or C<sub>7</sub>-C<sub>20</sub> arylalkyl group, optionally containing at least one heteroatom, and at least two of said R<sub>1</sub>-R<sub>3</sub> groups can also be joined to form a cycle, with the proviso that at least one of R<sub>1</sub> and R<sub>2</sub> is COOR<sup>4</sup> and that when R<sub>2</sub> is COO-i-octyl and R is i-octyl, at least one of R<sub>1</sub> and R<sub>3</sub> are different from hydrogen;

- an alkylaluminum compound; and optionally,  
 - at least one electron-donor compound (external donor).

9. (previously presented) The catalyst according to claim 8 in which the alkylaluminum compound is a trialkyl aluminum compound.
10. (previously presented) A process comprising (co)polymerizing olefins, the (co)polymerization being carried out in the presence of a catalyst comprising the product of the reaction between:
  - a solid catalyst component comprising Mg, Ti, halogen and an electron donor selected from thiophene derivatives of formula (I):



wherein R is a branched alkyl group, R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub>, same or different, are hydrogen, halogen, R<sup>4</sup>, OR<sup>4</sup>, COOR<sup>4</sup>, SR<sup>4</sup>, NR<sup>4</sup><sub>2</sub> or PR<sup>4</sup><sub>2</sub>, wherein R<sup>4</sup> is a linear or branched C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>2</sub>-C<sub>20</sub> alkenyl, C<sub>3</sub>-C<sub>20</sub> cycloalkyl, C<sub>6</sub>-C<sub>20</sub> aryl, C<sub>7</sub>-C<sub>20</sub> alkylaryl or C<sub>7</sub>-C<sub>20</sub> arylalkyl group, optionally containing at least one heteroatom, and at least two of said R<sub>1</sub>-R<sub>3</sub> groups can also be joined to

form a cycle, with the proviso that at least one of  $R_1$  and  $R_2$  is  $\text{COOR}^4$  and that when  $R_2$  is  $\text{COO-i-octyl}$  and  $R$  is  $\text{i-octyl}$ , at least one of  $R_1$  and  $R_3$  are different from hydrogen;

- an alkylaluminum compound; and optionally,
- at least one electron-donor compound (external donor).